



September 3, 2013

**Ex Parte**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th St. S.W.  
Washington, DC 20554

RE: GN Docket Nos. 12-268 and 12-354

Dear Ms. Dortch:

On August 30th, David Tennenhouse, Scott Blue, and Paula Boyd of Microsoft met with Commissioner Ajit Pai, Matthew Berry, his Chief of Staff, and Michael Beirne, Michael Williams, and Alison Nemeth of Commissioner Pai's office; separately with David Goldman, Senior Legal Advisor for Commissioner Rosenworcel; and separately with Dave Grimaldi, Chief Counsel and Senior Legal Advisor for Chairwoman Clyburn, Gary Epstein and Edward Smith. In addition, David Tennenhouse, Scott Blue and Staci Pies met with John Leibovitz, Deputy Bureau Chief and Brian Regan, Legal Advisor, Wireless Telecommunications Bureau.

In the meetings with Commissioner Pai, David Goldman, and Dave Grimaldi, Mr. Tennenhouse discussed the importance of ensuring that spectrum is available nationwide in the TV bands for unlicensed use, particularly in guard bands and the duplex gap. He noted that, with the increasing availability of broadband connected devices and cloud services, it is important to ensure sufficient broadband connectivity. He shared that while the Commission should ensure that there is sufficient spectrum for both licensed and unlicensed uses, Wi-Fi is playing an increasingly critical role in ensuring broadband connectivity, and that as of April 2013, Wi-Fi represented 67 and 72 percent of all data usage for LTE subscribers and 3G subscribers respectively and Wi-Fi data consumption represented more than 70 percent of total data used on a smartphone.<sup>1</sup> Mr. Blue noted that the white spaces IEEE 802.11af standard is expected to be

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<sup>1</sup> See Andrew Berger, *Research: 67% of LTE Customers' Data Usage is on Wi-Fi*, TELECOMPETITOR, June 20, 2013, <http://www.telecompetitor.com/research-67-of-lte-customers-data-usage-is-on-wi-fi/>.

completed in the coming months, and if there is certainty that TV band spectrum will be available, white spaces technology could be quickly incorporated into devices.

The Microsoft representatives expressed support for unlicensed use of the duplex gap, the guard band, remaining TV white spaces spectrum, any “remainder” spectrum, and the two channels reserved for wireless microphones. Mr. Tennenhouse and Mr. Blue stated that white spaces devices can use the duplex gap and guard bands without causing interference into LTE or broadcast operations if appropriate filter and interference mitigation techniques are employed. Mr. Tennenhouse noted that the Wi-Fi Alliance has indicated that a minimum of 24 MHz in any given market will be needed in order to provide hotspot related service in the TV band.

In the meeting with Commissioner Pai and his staff, as stated in Microsoft’s comments, Mr. Tennenhouse expressed Microsoft’s support for FDD technology, but noted that to the extent other band plans afforded sufficient spectrum for unlicensed uses, Microsoft would be open to other approaches. As outlined in Microsoft’s comments, Mr. Tennenhouse expressed support for allowing white space devices to use spectrum until an authorized user begins operations. The Microsoft representatives also noted that sufficient spectrum is needed in larger markets to ensure that consumers can use their devices wherever they are, and that it also is important to have sufficient spectrum in lightly populated markets in order to obtain the range necessary to serve those markets. Finally, Mr. Tennenhouse noted the importance of the United States building its lead in white spaces technology and not ceding our competitive position internationally as more countries pursue TV white spaces policies.

In the Wireless Bureau meeting with John Leibovitz and Brian Regan, Mr. Tennenhouse reiterated Microsoft’s support for the proposed 3-tier access model framework recommended in the PCAST report and set out by the Commission in the NPRM on 3.5 GHz. Microsoft emphasized that enabling non-exclusive opportunistic access in the 3.5 GHz band will increase available bandwidth to consumers. As discussed in Microsoft’s comments in the proceeding, the Commission’s flexible three-tier proposal strikes the right balance between protecting incumbent users, ensuring that available spectrum can be used most efficiently, and encouraging new technologies. Mr. Tennenhouse expressed concern that a shift towards a model that broadens eligibility for the Priority Access tier beyond mission critical services runs the risk of discouraging investment and innovation in General Authorized Access tier.

Please contact me if you have any questions or require additional information.

Respectfully submitted,

/s/

Paula Boyd  
Director of Government and Regulatory Affairs  
Microsoft Corporation

Ms. Marlene H. Dortch  
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Cc: Commissioner Ajit Pai  
Matthew Berry  
Gary Epstein  
David Goldman  
Dave Grimaldi  
John Leibovitz  
Brian Regan  
Edward Smith  
Michael Beirne  
Michael Williams  
Alison Nemeth